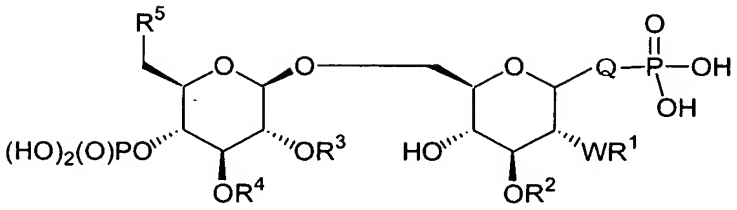
CLAIMS

1. A compound represented by the following general formula:



(I)

wherein Q represents an oxygen atom, a C_1-C_3 alkylene group, a -O-Alk- group or a -O-Alk-O- group (in which Alk represents a C_1-C_3 alkylene group),

W represents an oxygen atom or a -NH- group,

R^1 (when W is a -NH- group) represents a C_1-C_{20} alkanoyl group which may be substituted by at least one group selected from the following Substituent group A, a C_3-C_{20} alkenoyl group which may be substituted by at least one group selected from the following Substituent group A or a C_3-C_{20} alkynoyl group which may be substituted by at least one group selected from the following Substituent group A,

R^1 (when W is an oxygen atom), R^2, R^3 and R^4, which may be the same or different, represent a hydrogen atom, a C_1-C_{20} alkyl group which may be substituted by at least one group selected from the following Substituent group A, a C_2-C_{20} alkenyl group which may be substituted by at least one group selected from the following Substituent group A, a C_2-C_{20} alkynyl group which may be substituted by at least one group selected from the following Substituent group A, a C_1-C_{20} alkanoyl group which may be substituted by at least one group selected from the following Substituent group A, a C_3-C_{20} alkenoyl group which may be substituted by at least one group selected from the following Substituent group A or a C_3-C_{20} alkynoyl

group which may be substituted by at least one group selected from the following Substituent group A,

R^5 represents a hydrogen atom, a halogen atom, a hydroxyl group, a C_1-C_6 alkoxy group which may have an oxo group, a C_2-C_6 alkenyloxy group which may have an oxo group or a C_2-C_6 alkynyloxy group which may have an oxo group,

the Substituent group A consisting of a halogen atom, a hydroxyl group, an oxo group, a C_1-C_{20} alkoxy group which may have an oxo group, a (C_1-C_{20} alkoxy) C_1-C_{20} alkoxy group, a {(C_1-C_{20} alkoxy) C_1-C_{20} alkoxy} C_1-C_{20} alkoxy group, a C_2-C_{20} alkenyloxy group which may have an oxo group, a C_2-C_{20} alkynyloxy group which may have an oxo group, a C_1-C_{20} alkanoyloxy group which may have an oxo group, a C_3-C_{20} alkenoyloxy group which may have an oxo group and a C_3-C_{20} alkynoyloxy group which may have an oxo group, or a pharmacologically acceptable salt thereof.

2. The compound according to claim 1, wherein W is a -NH- group and R^1 is a C_8-C_{18} alkanoyl or C_8-C_{18} alkenoyl group, which may have a substituent selected from the Substituent group A, or a pharmacologically acceptable salt thereof.

3. The compound according to claim 1, wherein W is a -NH- group and R^1 is a C_{10}-C_{18} alkanoyl or C_{10}-C_{18} alkenoyl group, which may have a substituent selected from the Substituent group A, or a pharmacologically acceptable salt thereof.

4. The compound according to claim 1, wherein W is a -NH- group and R^1 is a C_{12}-C_{16} alkanoyl or C_{12}-C_{16} alkenoyl group, which may have a substituent selected from the Substituent group A, or a pharmacologically acceptable salt thereof.

5. The compound according to claim 1, wherein W is an oxygen atom and R^1, R^2, R^3 and R^4, which may be the same or different, are a C_4-C_{18} alkyl, C_4-C_{18} alkenyl, C_4-C_{18} alkanoyl or C_4-C_{18} alkenoyl group, which may have a substituent selected from the Substituent group A, or a pharmacologically acceptable salt thereof.

6. The compound according to claim 1, wherein W is an oxygen atom and R^1, R^2, R^3 and R^4, which may be the same or different, are a C_8-C_{18} alkyl, C_8-C_{18} alkenyl, C_8-C_{18} alkanoyl or C_8-C_{18} alkenoyl group, which may have a substituent selected from the Substituent group A, or a pharmacologically acceptable salt thereof.

7. The compound according to claim 1, wherein W is an oxygen atom and R^1, R^2, R^3 and R^4, which may be the same or different, are a C_{10}-C_{18} alkyl, C_{10}-C_{18} alkenyl, C_{10}-C_{18} alkanoyl or C_{10}-C_{18} alkenoyl group, which may have a substituent selected from the Substituent group A, or a pharmacologically acceptable salt thereof.

8. The compound according to claim 1, wherein W is an oxygen atom and R^1, R^2, R^3 and R^4, which may be the same or different, are a C_{12}-C_{16} alkyl, C_{12}-C_{16} alkenyl, C_{12}-C_{16} alkanoyl or C_{12}-C_{16} alkenoyl group, which may have a substituent selected from the Substituent group A, or a pharmacologically acceptable salt thereof.

9. The compound according to claim 1, wherein W is an oxygen atom, R^1 and R^3, which may be the same or different, are a C_{12}-C_{16} alkanoyl or C_{12}-C_{16} alkenoyl group, which may have a substituent selected from the Substituent group A, and R^2 and R^4, which may be the same or different, are a C_{12}-C_{16} alkyl or a C_{12}-C_{16} alkenyl group, which may have a substituent selected from the Substituent group A, or a pharmacologically acceptable salt thereof.

10. The compound according to claim 1, wherein W is an oxygen atom, R^1 and R^3, which may be the same or different, are a decanoyl, dodecanoyl, tetradecanoyl, dodecenoyl, tetradecenoyl or octadecenoyl group, which may have a substituent selected from the Substituent group A, and R^2 and R^4, which may be the same or different, are decyl, dodecyl, tetradecyl, dodecenyl, tetradecenyl or octadecenyl group, which may have a substituent selected from the Substituent group A, or a pharmacologically acceptable salt thereof.

11. The compound according to any one of claims 1 to 10, wherein the substituent selected from the Substituent group A is a fluorine atom, a hydroxyl group, a C_1-C_{20} alkoxy group, a C_{12}-C_{14} alkenyloxy group, a C_{12}-C_{14} alkanoyloxy group or a C_{12}-C_{14} alkenoyloxy group, or a pharmacologically acceptable salt thereof.

12. The compound according to any one of claims 1 to 10, wherein the substituent selected from the Substituent group A is a dodecyloxy group, a tetradecyloxy group, a dodecenyloxy group, a tetradecenyloxy group, a dodecanoyloxy group, a tetradecanoyloxy group, a dodecenoyloxy group, a tetradecenoyloxy group or an octadecenoyl group, or a pharmacologically acceptable salt thereof.

13. The compound according to any one of claims 1 to 12, wherein R^5 is a halogen atom, a hydroxyl group or an unsubstituted C_1-C_6 alkoxy group, or a pharmacologically acceptable salt thereof.

14. The compound according to any one of claims 1 to 12, wherein R^5 is a fluorine atom, a hydroxyl group or a methoxy group, or a pharmacologically acceptable salt thereof.

15. The compound according to any one of claims 1 to 14, wherein Q is an oxygen atom, or a pharmacologically acceptable salt thereof.

16. The compound according to any one of claims 1 to 14, wherein Q is a phosphonoethyl group, or a pharmacologically acceptable salt thereof.

17. The compound according to any one of claims 1 to 16, wherein position 1 of the right-side glucose or glucosamine takes the α configuration, or a pharmacologically acceptable salt thereof.

18. Phosphono 3-O-decyl-2-deoxy-6-O-{3-O-[(R)-3-methoxydecyl]-6-O-methyl-2-O-[(Z)-11-octadecenoyl]-4-O-phosphono-β-D-glucopyranosyl}-2-(3-oxotetradecanoylamino)-α-D-glucopyranoside,

phosphono 3-O-decyl-2-deoxy-6-O-{3-O-[(R)-3-methoxydecyl]-6-O-methyl-2-O-[(Z)-11-octadecenyl]-4-O-phosphono-β-D-glucopyranosyl}-2-(3-oxotetradecanoylamino)-α-D-glucopyranoside,

phosphono 3-O-decyl-2-deoxy-6-O-{3-O-[(R)-3-methoxydecyl]-2-O-[(Z)-11-octadecenoyl]-4-O-phosphono-β-D-glucopyranosyl}-2-(3-oxotetradecanoylamino)-α-D-glucopyranoside,

phosphono 3-O-decyl-2-deoxy-6-O-{3-O-[(R)-3-methoxydecyl]-2-O-[(Z)-11-octadecenyl]-4-O-phosphono-β-D-glucopyranosyl}-2-(3-oxotetradecanoylamino)-α-D-glucopyranoside,

2-(phosphonooxy)ethyl 3-O-decyl-2-deoxy-6-O-{3-O-[(R)-3-methoxydecyl]-6-O-methyl-2-O-[(Z)-11-octadecenoyl]-4-O-phosphono-β-D-glucopyranosyl}-2-(3-oxotetradecanoylamino)-α-D-glucopyranoside,

2-(phosphonooxy)ethyl 3-O-decyl-2-deoxy-6-O-{3-O-[(R)-3-methoxydecyl]-2-O-[(Z)-11-octadecenoyl]-4-O-phosphono-β-D-glucopyranosyl}-2-(3-oxotetradecanoylamino)-α-D-glucopyranoside,

2-(phosphonooxy)ethyl 6-O-{3-O-[(R)-3-methoxydecyl]-6-O-methyl-2-O-[(Z)-11-octadecenoyl]-4-O-phosphono-β-D-glucopyranosyl}-2,3-di-O-dodecyl-α-D-glucopyranoside,

phosphono 3-O-decyl-6-O-{3-O-[(R)-3-methoxydecyl]-6-O-methyl-2-O-[(Z)-11-octadecenoyl]-4-O-phosphono-β-D-glucopyranosyl}-2-O-(3-oxotetradecanoyl)-α-D-glucopyranoside,

phosphono 3-O-decyl-6-O-{3-O-[(R)-3-methoxydecyl]-2-O-[(Z)-11-octadecenoyl]-4-O-phosphono-β-D-glucopyranosyl}-2-O-(3-oxotetradecanoyl)-α-D-glucopyranoside,

2-(phosphonooxy)ethyl 2,3-di-O-dodecyl-6-O-{6-O-methyl-3-O-[(R)-3-methoxydecyl]-2-O-[(Z)-11-octadecenyl]-4-O-phosphono-β-D-glucopyranosyl}-α-D-glucopyranoside or

phosphono 6-O-{4-O-phosphono-3-O-[(R)-3-methoxydecyl]-6-O-methyl-2-O-[(Z)-11-octadecenyl]-β-D-glucopyranosyl}-3-O-dodecyl-2-O-[(R)-3-hydroxytetradecyl]-α,β-D-glucopyranoside according to claim 1, or a pharmacologically acceptable salt thereof.

19. Phosphono 3-O-decyl-6-O-{3-O-[(R)-3-methoxydecyl]-6-O-methyl-2-O-[(Z)-11-octadecenoyl]-4-O-phosphono-β-D-glucopyranosyl}-2-O-(3-oxotetradecanoyl)-α-D-glucopyranoside or

phosphono 3-O-decyl-6-O-{3-O-[(R)-3-methoxydecyl]-2-O-[(Z)-11-octadecenoyl]-4-O-phosphono-β-D-glucopyranosyl}-2-O-(3-oxotetradecanoyl)-α-D-glucopyranoside according to claim 1, or a pharmacologically acceptable salt thereof.

20. A medicament comprising the compound according to any one of claims 1 to 19 as an active ingredient.

21. An agent for prophylaxis or treatment of inflammation, comprising the compound according to any one of claims 1 to 19 as an active ingredient.

22. An agent for prophylaxis or treatment of an autoimmune disease, comprising the compound according to any one of claims 1 to 19 as an active ingredient.

23. An agent for prophylaxis or treatment of sepsis, comprising the compound according to any one of claims 1 to 19 as an active ingredient.

24. An immunosuppressive agent comprising the compound according to any one of claims 1 to 19 as an active ingredient.

25. A prognosis-improving agent after coronary artery bypass surgery, comprising the compound according to any one of claims 1 to 19 as an active ingredient.

26. Use of the compound according to any one of claims 1 to 19 or a pharmacologically acceptable salt thereof for producing a pharmaceutical composition.

27. A method for prophylaxis or treatment of inflammation, which comprises administering a pharmacologically effective dose of the compound according to any one of claims 1 to 19 or a pharmacologically acceptable salt thereof to a warm-blooded animal.

28. A method for prophylaxis or treatment of an autoimmune disease, which comprises administering a pharmacologically effective dose of the compound according to any one of claims 1 to 19 or a pharmacologically acceptable salt thereof to a warm-blooded animal.

29. A method for prophylaxis or treatment of sepsis, which comprises administering a pharmacologically effective dose of the compound according to any one of claims 1 to 19 or a pharmacologically acceptable salt thereof to a warm-blooded animal.

30. A method for immunosuppression, which comprises administering a pharmacologically effective dose of the compound according to any one of claims 1 to 19 or a pharmacologically acceptable salt thereof to a warm-blooded animal.

31. A method for improving prognosis after coronary artery bypass surgery, which comprises administering a pharmacologically effective dose of the compound according to any one of claims 1 to 19 or a pharmacologically acceptable salt thereof to a warm-blooded animal.